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10/549,668	09/19/2005	Satoru Shoshi	Q90317	3756
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**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

### Office Action Summary

**Application No.**

10/549,668

**Applicant(s)**

SHOSHI, SATORU

**Examiner**

ANISH DESAI

**Art Unit**

1794

**Period for Reply** -- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 27 February 2009.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1 and 3-9 is/are pending in the application.
- 4a) Of the above claim(s) 5 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1, 3, 4 and 6-9 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO/5508)  
Paper No(s)/Mail Date 3/13/09
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_\_

***DETAILED ACTION***

1. Applicant's arguments in response to the Office action dated 10/27/08 have been fully considered. The status identifier of claim 5 is incorrect and it should be changed to "withdrawn", because claim 5 is withdrawn from consideration (see applicant's response to restriction requirement received on 07/11/08).
2. Support for amended claims 1, 8, and 9 is found in the specification as originally filled.
3. In view of applicant's amendment, a new 35 USC Section 112-first paragraph rejection is made. Similarly, a new 35 USC Section 112-second paragraph rejection is made.
4. The 35 USC Section 102(b) rejections to claim 1 based on Barrera (US 5,965,256) are withdrawn in view of the present amendment and response. Barrera does not teach or suggest "weight average molecular weight of 5,000 to 20,000" as presently claimed.
5. The Examiner thanks applicant for pointing out that the weight average molecular weight of urethane acrylate disclosed on page 4, paragraph 0006 of Mori is actually between 1,000 to 100,000, not 1,000 to 10,000 as indicated in the Office action.

***Claim Rejections - 35 USC § 112***

The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

6. Claims 7 and 9 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

7. Claim 7 requires weight average molecular weight of 8,000 to 20,000. While there is a support in the specification to state that the weight average molecular weight is in the range of 3,000 to 20,000 or 5,000 to 15,000, there is no support in the specification to claim that the weight average molecular weight of 8,000 to 20,000. Applicant has stated in his/her response that the examples of the present specification show the weight average molecular weight of 8,000 and 14,000. In response, the Examiner respectfully submits that these are individual examples, and there is no support for claimed recitation "8,000 to 20,000".

8. With respect to claim 9, it is submitted that while there is support to recite that the UV curable hard coat agent is a polyfunctional UV curable acrylic compound having three or more functional groups such as acrylates, urethane acrylates, and polyester acrylates, there is no support for the broad disclosure of UV curable hard coat agent of acrylates, urethane acrylates, and polyester acrylates as presently claimed.

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

9. Claims 1-4 and 6-9 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.
10. Regarding the newly amended claim recitation "other polymerizable compounds", this recitation is indefinite because it is not clear as to the chemical composition of the "other polymerizable compounds". The scope of the claim is unclear because it is not clear as to what compounds are included as other polymerizable compounds.

***Claim Rejections - 35 USC § 103***

11. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

12. Claims 1, 3, 7, and 8 are rejected under 35 U.S.C. 103(a) as being unpatentable over Barrera (US 5,965,256) in view of Mori (JP 11-189762-English translation provided by the Examiner).

13. Barrera teaches a surface protection film and coating. Additionally, the invention of Barrera is useful as protective coatings for aircraft surfaces, automotive surfaces, signage, buildings etc. (column 1 lines 15-25, column 4 lines 25-45, and column 15 lines 20-30). Additionally, Barrera teaches that the surface protection film of his/her invention is formed by "(a) coating or otherwise depositing a layer comprising curable IPN [interepenetrating network] film precursors onto a cured adhesive film; (b) coating or otherwise depositing a fluoro-containing topcoat layer onto the curable IPN film precursors, wherein the fluoro-containing topcoat layer is selected...and (c) applying at least one of heat and light energy to the construction to cure the curable IPN film precursors and the energy-curable fluoropolymer precursor." (column 3 line 61-column 4 line 3)

14. The aforementioned teaching of Barrera together with Barrera's disclosure at column 3 lines 17-20 and 43-47 and at column 4 lines 53-55 is interpreted to read on applicant's claimed PSA sheet having a structure and composition of hard coat layer/urethane (meth)acrylate layer/PSA layer; wherein the Examiner equates Barrera's cured urethane(meth)acrylate layer and outermost layer of fluoro-containing layer with applicant's cured difunctional urethane(meth)acrylate layer and the hard coat layer respectively. Further, it is noted that the (urethane)methacrylate of Barrera is formed of

diol (see column 11 lines 1-5 and column 12 lines 23-25), thus the (urethane)acrylate is Barrera is difunctional (urethane)acrylate.

15. As to the newly added limitation "wherein the content of the difunctional urethane (meth)acrylate is 80 or more percent by mass to the total amount of the difunctional...and other polymerizable compounds", the recitation "80 percent or more" is interpreted as there can be 100 percent by mass of the difunctional urethane (meth)acrylate present. Since, Barrera's IPN layer is formed of difunctional urethane (meth)acrylate, said layer necessarily has 100 percent by mass of urethane (meth)acrylate.

16. Regarding claim 3 limitation of the thickness of the hard coat layer, Barrera discloses that the thickness of the hard coat layer is from 0.01 mm to 0.025 mm (column 14 lines 40-45), which converts to 10 micrometers to 25 micrometers.

17. Regarding claims 1 and 7, Barrera is silent with regards to difunctional urethane (meth)acrylate having a weight average molecular weight of 5,000 to 20,000 (or 8,000 to 20,000) and content of the difunctional urethane (meth)acrylate is 80 percent or more by mass to the total amount of the difunctional urethane (meth)acrylate and other polymerizable compounds. Further, with regards to claim 3, Barrera is silent as to teaching the thickness of the cured urethane(meth)acrylate layer as claimed.

18. However, Mori discloses an adhesive sheet substrate comprising difunctional urethane (meth) acrylate (page 2, 0006, 0008). Further, weight average molecular

weight of the urethane (meth) acrylate of Mori is from 1,000 to 100,000 (0006), which meets applicant's weight average molecular weight of 5,000 to 20,000. Further, thickness of the adhesive sheet substrate of Mori is from 1 to 1,000 micrometers and preferably from 10 to 500 micrometers (0027).

19. With respect to the claim 1 recitation "80 percent or more" is interpreted as there can be 100 percent by mass of the difunctional urethane (meth)acrylate present. It is also noted that Mori at 0015 discloses that "One of the diluents (B) described below **can be** present during the urethane reaction and/or acrylate reaction." Thus, the Examiner interprets that diluent is optional in Mori's invention. Thus, if only urethane (meth)acrylate is present, then said urethane (meth)acrylate would be 100% by mass.

20. Alternatively, Mori discloses that "The preferred ratio of urethane (meth) acrylate (A) to reactive diluent (B) is 10 to 90 ppw (A) and 90-10 ppw (B). The amount of photopolymerization initiator (C) used is 0.1 to 15 ppw (C) per 100 ppw (A) + (B)." (0021). This disclosure of Mori is interpreted as the photopolymerization initiator is present in Mori's invention in negligible amount (e.g. 0.1 ppw) in the composition. Therefore, the weight% of urethane (meth) acrylate present in a mixture containing e.g. 90 pbw urethane (meth)acrylate and 10 pbw diluent would be 90%, and it meets the aforementioned claim requirement.

21. It is noted that the primary reference of Barrera discloses a surface protection film having a urethane (meth) acrylate layer on which an adhesive layer is coated on



one surface of the urethane (meth) acrylate layer, and a hard coat layer is coated on the other surface of the urethane (meth) acrylate layer. The secondary reference of Mori discloses an adhesive sheet substrate including urethane (meth) acrylate having molecular weight in the range of 1,000 to 100,000, wherein an adhesive is coated on one side of the urethane (meth)acrylate substrate sheet.

22. Therefore regarding claims 1 and 3, it would have been obvious to one having ordinary skill in the art at the time the invention was made to select the urethane (meth) acrylate of Mori with the thickness and the molecular weight, because selecting a known material based on its suitability for its intended use establishes *prima facie* case of obviousness.

23. Regarding claim 8 recitation "95 or more percent by mass" is interpreted as there can be 100 percent by mass of the difunctional urethane (meth) acrylate present. It is also noted that Mori at 0015 discloses that "One of the diluents (B) described below **can be** present during the urethane reaction and/or acrylate reaction." Thus, the Examiner interprets that diluent is optional in Mori's invention. Thus, if only urethane (meth)acrylate is present, then said urethane (meth)acrylate would be 100% by mass and it would meet said claim. It would have been obvious to one having ordinary skill in the art at the time the invention was made to select the weight% of urethane (meth) acrylate of Mori, because selecting a known material based on its suitability for its intended use establishes *prima facie* case of obviousness.

24. Claims 4 and 9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Barrera (US 5,965,256) in view of Mori (JP 11-189762-English translation provided by the Examiner) as applied to claim 1 above, and further in view of Onozawa et al. (US 6,103,370).

25. Barrera as modified by Mori is silent as to teaching the hard coat layer comprising filler as presently claimed.

26. However, Onozawa discloses a hard coat sheet having a base sheet, a hard coat layer provided on the base sheet, and an adhesive layer that is provided on the back of the base material (abstract and column 3 lines 60-65). Additionally, Onozawa discloses that the hard coat of his/her invention includes filler to provide anti-glare properties (column 1 lines 56-59 and column 3 lines 19-28).

27. It is noted that the surface protection film (adhesive sheet) of Barrera is useful on the surfaces of vehicles such as automobiles, aircrafts etc. (column 15 lines 20-30). The invention of Onozawa is useful for providing anti-scattering property and light (heat ray) shielding property to window pane in buildings, or a vehicle etc. (column 1 lines 5-15).

28. Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to use add the filler as taught by Onozawa in the hard coat layer of Barrera, motivated by the desire to provide anti-glare properties to the surface protective films of Barrera.

29. Regarding the newly added claim 9, this claim broadly recites "ultraviolet curable hard coat agent of acrylates". Barrera at column 13 lines 30-67 describes the outermost layer (i.e. hard coat) layer of his/her invention. Specifically, at column 13 lines 59 to column 14 line 10, Barrera discloses "Further, acrylate fluoropolymers can be copolymerized with non-fluorinated acrylate monomers, such as those described above as being useful in the preparation of the IPN layers of films of the invention...A second class of acrylate monomers that can be copolymerized with fluoromonomers comprises acrylate having...". This disclosure of Barrera is interpreted to read on "ultraviolet curable hard coat agent of acrylates" as claimed.

30. Claim 6 is rejected under 35 U.S.C. 103(a) as being unpatentable over Barrera (US 5,965,256) in view of Mori (JP 11-189762-English translation provided by the Examiner) (US 5,965,256) as applied to claim 1 above, and further in view of Furuya et al. (US 6,150,026).

31. Barrera is silent as to teaching the protecting film laminated on the surface of the hard coat layer. However, the reference of Furuya is relied to show that it is known to apply protective layer on the surface of a hard coat layer. Specifically, Furuya discloses a polypropylene based resin exterior panel that includes a hard coat layer, and such panels having utility in automobile industry (column 1 lines 5-20 and column 2 lines 45-50). At column 7 lines 27-35, Furuya teaches of forming of a protective film layer on the

surface of the hard coat layer to protect the surface of the exterior panels from dirt, dust etc. (column 7 lines 25-30).

32. Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to apply a protective film layer on the hard coat layer of the PSA sheet, motivated by the desire to protect the surface onto which the PSA sheet is applied from dirt and dust.

### ***Response to Arguments***

33. Applicant's arguments filed on 02/27/09 have been fully considered but they are not persuasive.

34. On page 5-6 of applicant's amendment, applicant argues that fluoro-containing polymer layer of Barrera (equated as a hard coat layer by the Examiner) is sandwiched between the PSA layer and the IPN layer, which is different from applicant's PSA sheet, which has a cured urethane (meth)acrylate layer sandwiched between the PSA layer and the hard coat layer.

35. The Examiner submits that, Barrera teaches that the surface protection film of his/her invention is formed by "(a) coating or otherwise depositing a layer comprising curable IPN [interpenetrating network] film precursors onto a cured adhesive film; (b) coating or otherwise depositing a fluoro-containing topcoat layer onto the curable IPN film precursors, wherein the fluoro-containing topcoat layer is selected...and (c)

applying at least one of heat and light energy to the construction to cure the curable IPN film precursors and the energy-curable fluoropolymer precursor." Additionally, claim 20 of Barrera discloses PSA.

36. The aforementioned teaching of Barrera together with Barrera's disclosure at column 3 lines 43-47 and at column 4 lines 53-55 is interpreted to read on applicant's claimed PSA sheet having a structure and composition of hard coat layer/urethane (meth)acrylate layer/PSA layer; wherein the Examiner equates Barrera's cured urethane(meth)acrylate layer and outermost layer of fluoro-containing layer with applicant's cured difunctional urethane(meth)acrylate layer and the hard coat layer respectively. Accordingly, applicant's arguments are not found persuasive.

37. On page 6 of applicant's amendment, applicant disagrees with the Examiner that the fluoro-containing polymer layer of Barrera is equivalent to applicant's hard coat layer. Applicant directs the Examiner's attention to page 9 of the specification and argues that applicant's hard coat layer does not contain fluoro polymer and as such, is different from Barrera's fluoro-containing polymer layer.

38. The Examiner submits that, applicant's arguments citing page 9 of the specification are not commensurate in scope with the claimed invention. Because page 9 of the specification requires specific examples of hard coat layer, wherein claims (at least the independent claim 1) only requires a "hard coat layer". Additionally, in

response to applicant's argument that the references fail to show certain features of applicant's invention, it is noted that the features upon which applicant relies (i.e. specific polymers that form the hard coat layer) are not recited in the rejected claim(s). Although the claims are interpreted in light of the specification, limitations from the specification are not read into the claims. See *In re Van Geuns*, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir.1993).

39. On page 6 of applicant's amendment, applicant further argues that Barrera does not teach or suggest the hard coat of a new claim 9.

40. The Examiner submits that this claim broadly recites "ultraviolet curable hard coat agent of acrylates". Barrera at column 13 lines 30-67 describes the outermost layer (i.e. hard coat) layer of his/her invention. Specifically, at column 13 lines 59-67 to column 14 lines 1-10, Barrera discloses "Further, acrylate fluoropolymers can be copolymerized with non-fluorinated acrylate monomers, such as those described above as being useful in the preparation of the IPN layers of films of the invention...A second class of acrylate monomers that can be copolymerized with fluoromonomers comprises acrylate having...". This disclosure of Barrera is interpreted to read on "ultraviolet curable hard coat agent of acrylates" as claimed.

41. On page 8 of applicant's amendment, applicant argues that "Mori does not disclose a formation of the hard coat layer. Accordingly, Mori does not disclose the visual definition of an image and bending property."

42. The Examiner submits that applicant's arguments relating to Mori does not disclose the visual definition of an image and bending property are not commensurate in scope with the claimed invention since nothing in claims require visual definition of an image and bending property. Further, the Examiner submits that Mori is not relied upon to disclose the claim limitation of a hard coat since this limitation is already taught by Barrera. The Examiner further submits that while Mori do not disclose all the features of the present claimed invention, Mori is used as teaching reference, and therefore, it is not necessary for this secondary reference to contain all the features of the presently claimed invention, *In re Nievelt*, 482 F.2d 965, 179 USPQ 224, 226 (CCPA 1973), *In re Keller* 624 F.2d 413, 208 USPQ 871, 881 (CCPA 1981). Rather this reference teaches a certain concept, namely specific difunctional urethane(meth)acrylate as presently claimed and in combination with the primary reference, discloses the presently claimed invention. Accordingly, applicant's arguments are not found persuasive.

43. On pages 8-10 of applicant's amendment, applicant has asserted that the examples 1-4 of Mori does not have weight average molecular weight as presently claimed.

44. The Examiner respectfully submits that applicant's arguments are based on applicant's personal opinion without any factual evidence on the record in the form of a suitable affidavit/declaration. The arguments provided by the applicant regarding the weight average molecular weight of urethane(meth)acrylate of Mori references must be supported by a declaration or affidavit. As set forth in MPEP 716.02(g), "the reason for requiring evidence in a declaration or affidavit form is to obtain the assurances that any statements or representations made are correct, as provided by 35 U.S.C. 24 and 18 U.S.C. 1001". Additionally, it is not clear as to how applicant calculates the number average molecular weight of urethane acrylate and then weight average molecular weight of said urethane acrylate.

45. The Examiner further notes that even if applicant provides a suitable declaration/affidavit, said declaration or affidavit may not be persuasive in view of Mori's teachings as a whole. Specifically, while the examples of Mori may not use urethane (meth)acrylate with weight average molecular weight as presently claimed, however "applicant must look to the whole reference for what it teaches. Applicant cannot merely rely on the examples and argue that the reference did not teach others." *In re Courtright*, 377 F.2d 647, 153 USPQ 735,739 (CCPA 1967). Mori clearly teaches that



the weight average molecular weight of the urethane (meth) acrylate of his/her invention is preferably 1,000 to 100,000 (see 0006), which meets applicant's weight average molecular weight of 5,000 to 20,000 (claim 1) and 8,000 to 20,000 (claim 7).

Accordingly, applicant's arguments are not found persuasive. Further, as set forth in MPEP 2144.05, in the case where the claimed range "overlap or lie inside ranges disclosed by the prior art", a prima facie case of obviousness exists, *In re Wertheim*, 541 F.2d 257, 191 USPQ 90 (CCPA 1976); *In re Woodruff*, 919 F.2d 1575, 16 USPQ2d 1934 (Fed. Cir.1990).

46. With respect to applicant's arguments on page 10 of the amendment that the difunctional urethane (meth)acrylate having weight average molecular weight of narrow range, 5,000-20,000 has superior effects, it is respectfully submitted that there is no factual evidence to support this position, i.e. data.

### ***Conclusion***

47. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

48. A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within

TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

49. Any inquiry concerning this communication or earlier communications from the examiner should be directed to ANISH DESAI whose telephone number is (571)272-6467. The examiner can normally be reached on Monday-Friday, 8:00AM-4:30PM.

50. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Callie Shosho can be reached on 571-272-1123. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

51. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a

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USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/A. D./

Examiner, Art Unit 1794

/Callie E. Shosho/

Supervisory Patent Examiner, Art Unit 1794